

what is intelligence

Intelligence is a piano, the world presses the keys on her, and she responds to the world with a song.

what is computer

Computer is the elementary form of intelligence, which can be seen as the brain of intelligence.

history of computer

to know the outcome faster

from hand-driven computer to power-driven computer

problem of early computer(controlled by relay)

large

slow

Mechanical wear

cost

solution by vacuum tube

negative electrode

positive electrode

middle electrode(negative or positive)

problem of vacuum tube

fragile(glass)

still too large

still low physical efficiency

solution by semiconductor tube(transistor)

replace the middle electrode by semiconductor

logic gate

$\text{not}(0)=1; \text{not}(1)=0$

$\text{and}(1,1)=1, \text{and}(0,x)=0$

$\text{or}(1,x)=1, \text{or}(0,0)=0$

$\text{xor}(0,0)=\text{xor}(1,1)=0, \text{xor}(1,0)=\text{xor}(0,1)=1$

Data size

bit:

byte:8 bits

Kb:1000/1024 byte

MB:1000/1024 Kb

GB:1000/1024 MB

TB:1000/1024 GB

Data type

negative:- as 0

integer:decimal to binary(int)

decimal: 0.2939×10^8 (float)

character: limit data(string)

ALU

logic unit(4 bits)

input signal 1000

activate related math unit(subtract)

math unit(8bits)

input signal A(00100111)

input signal B (00100110)

output signal C(01010101)